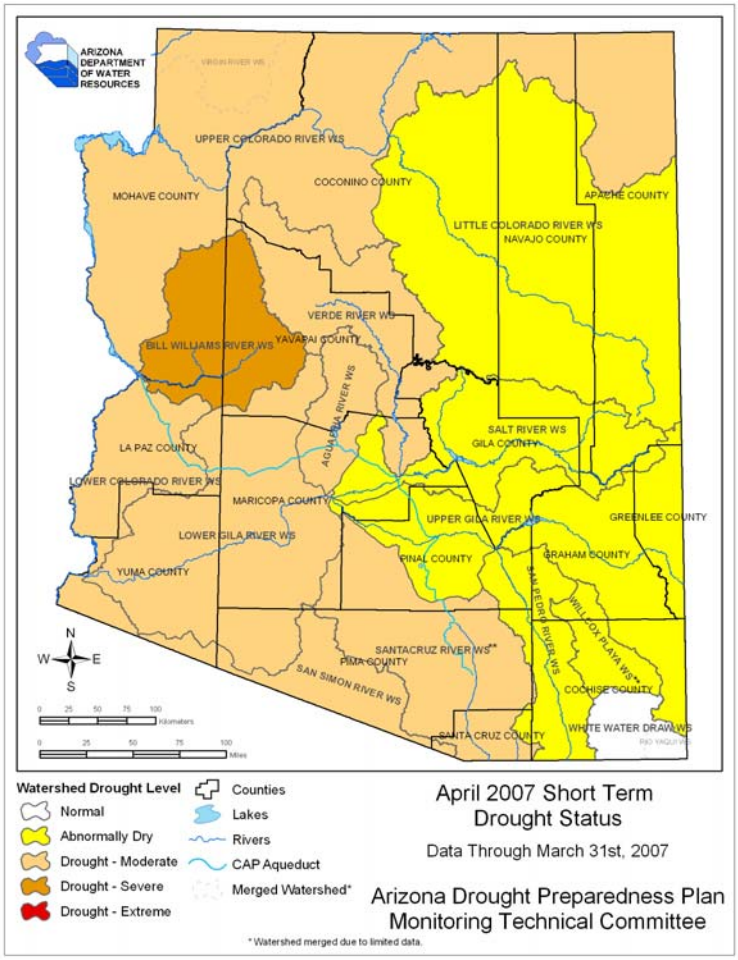
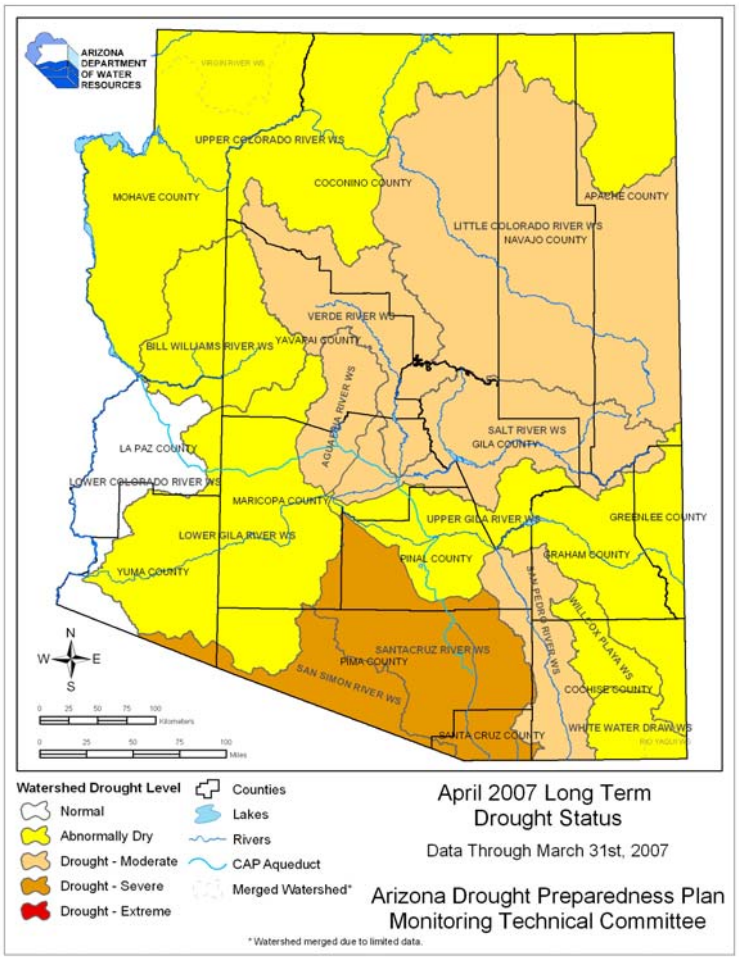
Arizona Drought Monitor Report

April 2007

Short-term Drought Status



Long-term Drought Status

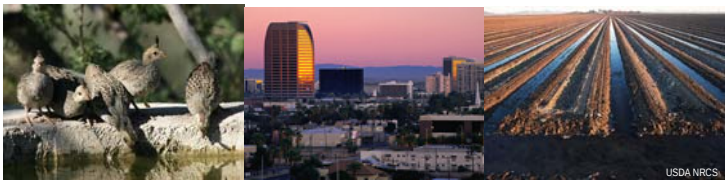


Short-term Update

The short-term drought status is unchanged from the March update, with the western half of the state in moderate or severe drought, and the eastern half abnormally dry. Although the southeastern watersheds had above-average precipitation for March, precipitation deficits continued for the 3- to 12- month period and are reflected in the short term status. Above-average temperatures during the past 12 months have exacerbated the dryness, leading to continued poor range conditions.

Long-term Update

The long-term drought status also remains unchanged since the March update, with the central watersheds in moderate drought, the south central watersheds in severe to moderate drought, and most other areas of the state experiencing abnormally dry conditions. Only the lower Colorado watershed reflects normal conditions. Although much of the snow melted during March, there has yet to be any significant recharge from the runoff. With the reduced snowpack this year, and the forecast calling for continued hot and dry conditions, both the long-term and short-term drought conditions are likely to persist.



Drought Impacts

Pima County declares a Drought Stage 1

Visit Pima County's Drought Management website at www.pima.gov/drought/.

The City of Tucson, Community Water Company of Green Valley, and Pima County declared a Drought Stage 1 for the Tucson Water service area and unincorporated Pima County on April 24, 2007. This declaration was based on regional climatic conditions and forecasts. Other water providers in the area are also taking action to respond to drought conditions. Metropolitan Domestic Water Improvement District (Metro Water) and Oro Valley Water are in a Drought Stage 2 – Warning, and other providers have plans for drought declarations in the near future. Pima County has provided links to area water providers on their drought management web page so that customers can obtain more specific recommendations.

It should be noted that the drought declaration does not indicate a shortage of water, but rather recognizes that persistent drought conditions exist.

Pima County has a Drought Ordinance that establishes conservation measures at each declared stage of drought. At the current Stage 1, all water use reductions are voluntary. If the county progresses to Stage 2 and beyond, water use reductions become mandatory. The county has provided links on its website to suggestions for conserving water, as well as frequently-asked questions and answers to assist residents in understanding the drought declaration and how they can participate in reducing the county's water use.

Pima County Drought Stage 1 Management Measures

- All persons are asked to implement voluntary reductions in water use (see suggestions at www.pima.gov/drought/reduce.htm)
- Restaurants are asked to provide water only upon request
- Hotels and motels are urged to conserve water

Additionally, the Water Wasting section of the Drought Ordinance prohibits a person to waste water or use water unreasonably.

Reports from the Yavapai County Local Drought Impact Group

In the Agua Fria and Bill Williams watersheds in Western Yavapai and Eastern Mohave counties, recent rains have produced moderate green-up, though they were too late to benefit annuals. Dirt tanks have sufficient water to support livestock grazing for perhaps one month. The spurt of forage growth and additional water has allowed for more disbursement of livestock and should provide for some recovery of the more heavily grazed winter sites.

Other residents in the area report dry rangelands with no feed for wildlife or stock. Dry grass remains from last year, with no new grass starting, and ranchers have had to irrigate. Oaks are showing signs of stress.

In the Verde watershed, residents report that the pond on Banning Creek below Goldwater Lake looks relatively good compared to conditions in 2002. Ponderosas at Lynx Lake, however, are browner than those in the forest near Banning Creek.

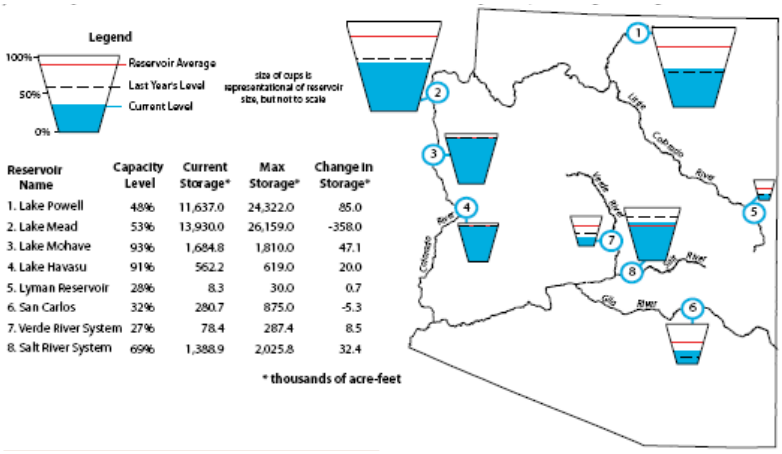
Reservoir Storage

Arizona Reservoir Status

Storage in most Arizona reservoirs remained relatively unchanged from last month (see figure below). Lake Mead experienced the largest change in volume (-358.0 thousand acre-feet), though this is only a 2.5 percent decrease. All other reservoirs, except for the San Carlos, have slightly increased storage relative to last month due to inflows from early spring snowmelt.

Recent warmer temperatures have affected snow runoff and inflow to reservoirs. Normally, snowpack above Lake Powell increases during March. This year, snowpack did not increase, partly due to above-average temperatures and below-average precipitation. Though unregulated inflow to Lake Powell was 120 percent of average in March, increased snowmelt and more precipitation falling as rain than snow mean there will be less inflow from April through July. Current projections from the U.S. Bureau of Reclamation predict inflow to Lake Powell will be 50 percent of average for the April–July period.

Arizona reservoir levels for March 2007 as a percent of capacity. The map depicts the average level and last year's storage for each reservoir, while the table also lists current and maximum storage levels.



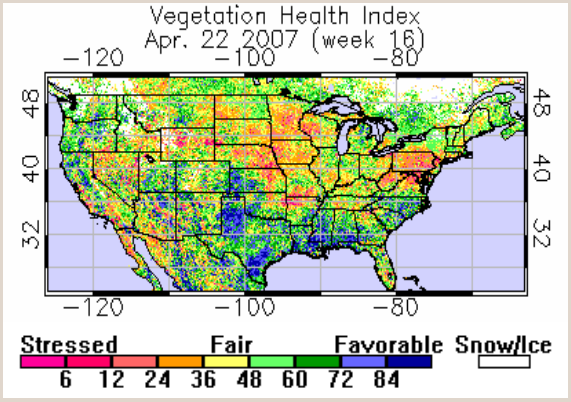
Reservoir Name	Capacity Level	Current Storage*	Max Storage*	Change in Storage*
1. Lake Powell	48%	11,637.0	24,322.0	85.0
2. Lake Mead	53%	13,930.0	26,159.0	-358.0
3. Lake Mohave	93%	1,684.8	1,810.0	47.1
4. Lake Havasu	91%	562.2	619.0	20.0
5. Lyman Reservoir	28%	8.3	30.0	0.7
6. San Carlos	32%	280.7	875.0	-5.3
7. Verde River System	27%	78.4	287.4	8.5
8. Salt River System	69%	1,388.9	2,025.8	32.4

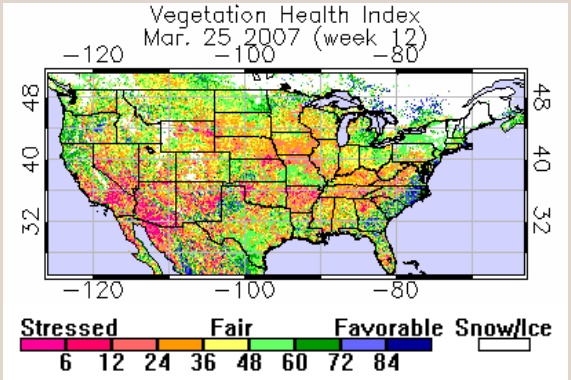
* thousands of acre-feet

Photos by the National Park Service

Vegetation Health

Satellite-derived images taken April 22, 2007 (top figure) and March 25, 2007 (bottom figure) show that vegetation health has improved throughout Arizona and the Southwest over the past month due to the passage of several spring storm systems. According to the current image, vegetation in north-eastern Arizona and in areas along the Mogollon Rim is in favorable condition and vegetation in southwestern Arizona has improved from stressed to fair condition. The recent precipitation has also helped to suppress early fire season activity in Arizona's forests and grasslands. Further improvements in vegetation health are uncertain as forecasts call for equal chances of below, average, or above-average precipitation in the upcoming months.

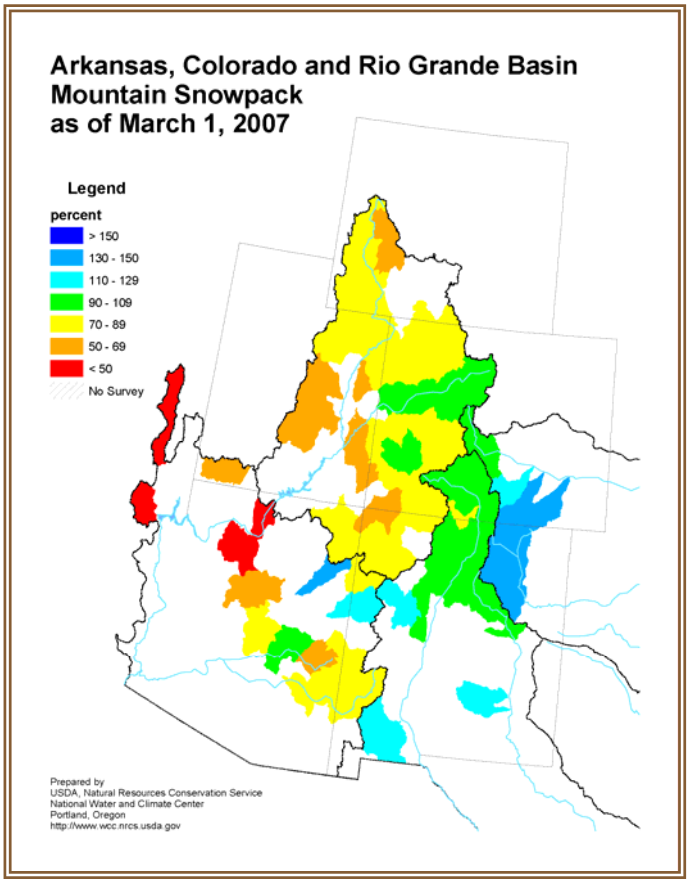


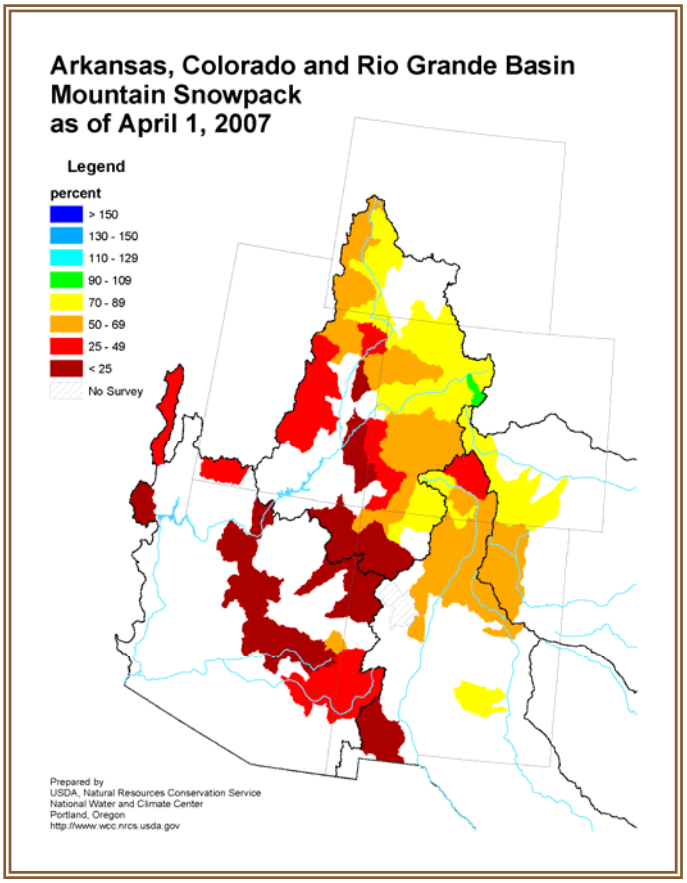


Images are obtained from the NOAA National Environmental Satellite, Data and Information Service (NESDIS).

Mountain Precipitation







Snowpack levels remain much below average, ranging from 9 percent to 54 percent of average on April 1, and cumulative precipitation since October 1 is low in all basins, ranging from 48 percent to 79 percent of average (see tables below).

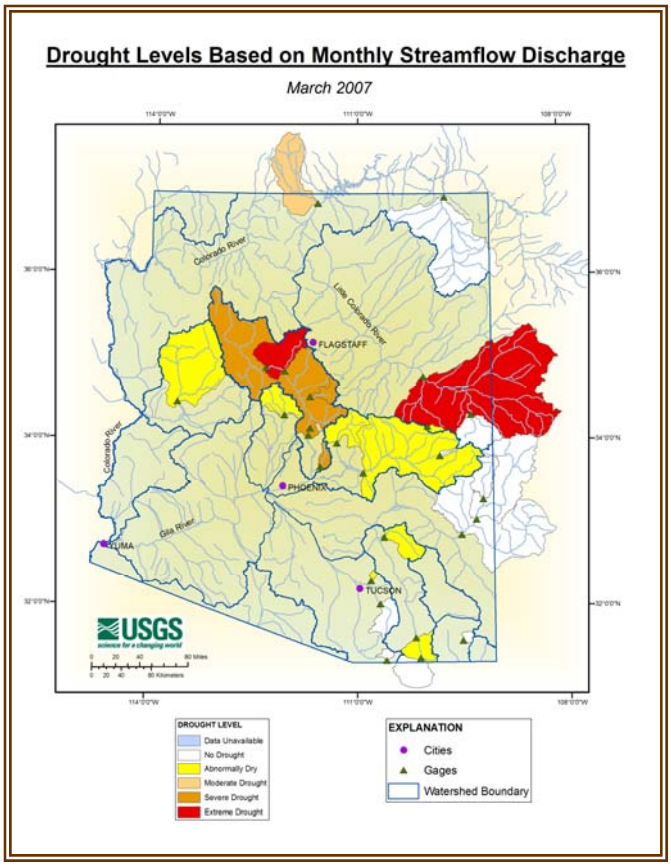
Mountain Snowpack

Watershed	Snowpack Levels as of April 1 (% 30-yr. average)
Salt River Basin	27%
Verde River Basin	9%
Little Colorado River Basin	10%
San Francisco-Upper Gila River Basin	54%
Other Points of Interest	
Central Mogollon Rim	6%
Grand Canyon	4%
Arizona Statewide	20%

Water Year Precipitation

Watershed	Cumulative Precip. Oct. 1 - March (% 30-yr. average)
Salt River Basin	66%
Verde River Basin	48%
Little Colorado River Basin	64%
San Francisco-Upper Gila River Basin	79%
Other Points of Interest	
Central Mogollon Rim	66%
Grand Canyon	51%
Arizona Statewide	----

Mountain Streamflow



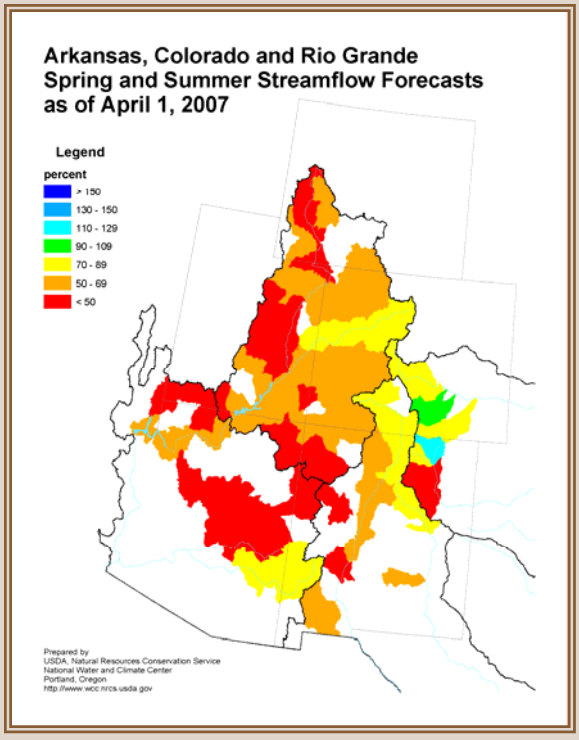
March Streamflow

Water body	March Runoff in Acre Feet	% of Median
Salt River near Roosevelt	54,200	42%
Tonto Creek	2,830	13%
Verde River at Horseshoe Dam	13,760	16%
Combined Inflow to Salt River Project (SRP) reservoir system	70,790	33%
Little Colorado River above Lyman Lake	981	58%
Gila River to San Carlos Reservoir	22,393	81%

Streamflow Forecasts

With the dry season approaching, prospects for significant relief have diminished. Water users and managers can expect very low stream flows this spring and summer, ranging from 42 percent of median in the Verde River at Horseshoe Dam to 71 percent of average inflow to Lake Powell on the Colorado River (see table below).

Water body	Forecasted Runoff (March 1-May unless noted) in Acre Feet	Percent of 30-Year Median (unless noted)
Salt River near Roosevelt	125,000	46%
Tonto Creek	12,000	46%
Verde River at Horseshoe Dam	60,000	42%
San Francisco River at Clifton	28,000	67%
Gila River near Soloman	60,000	57%
San Carlos reservoir inflow	30,000	47%
Little Colorado River above Lyman Lake	Mar-June – 3,900	62%
Little Colorado River at Woodruff	1,360	62%
Colorado River inflow to Lake Powell	Apr-July – 5.6 million	71% of 30-yr. avg.
Virgin River at Littlefield	Apr-July – 35,000	47% of 30-yr. avg.



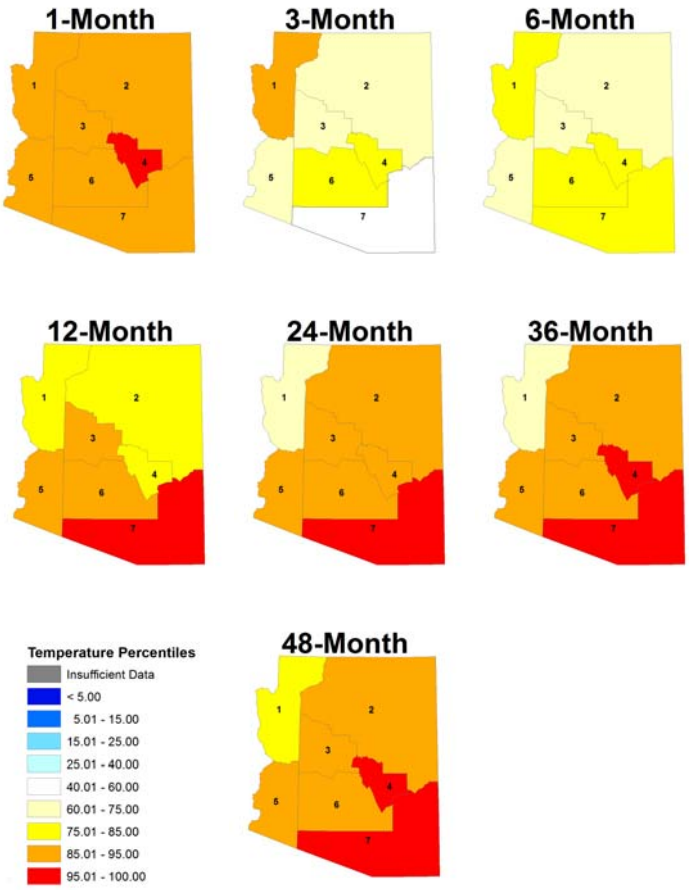
Temperature and Precipitation


Precipitation during the month of March was below average across the northern half of the state, near normal in the southwest and above average in the southeast watersheds. The near average precipitation in the Bill Williams and Lower Colorado watersheds will help offset extremely dry conditions the previous two months. The high temperatures of March (all watersheds were above the 89th percentile) melted virtually all of the snowpack around the state, and caused much of the precipitation to fall as rain rather than snow.

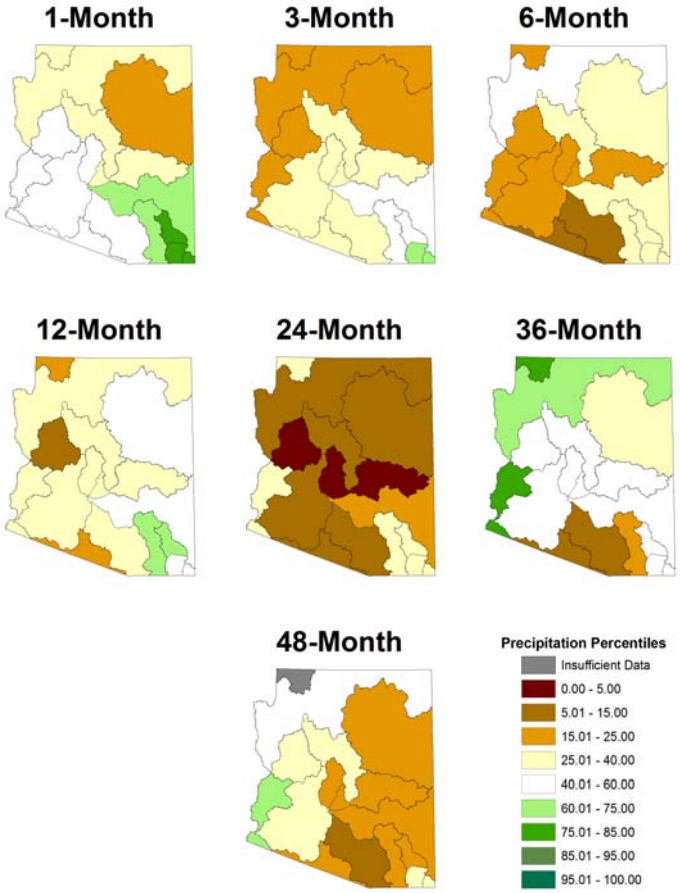
The two-year period precipitation map is particularly interesting in its depiction of the longer term drought condition. It seems that an occasional wet season, such as the winter of 2005, is completely offset by an exceptionally dry season, such as the winter of 2006, within the two year window. This alternating of wet and dry years prevents the wet years from being effective in alleviating the drought. For temperature, all divisions except the northwest are above the 85th percentile, exacerbating the dry conditions. Again, the southeast climate division is the hot spot at the 100th percentile.

For more information, visit http://www.public.asu.edu/~aunjs/Update.html.

Temperature Percentiles by Climate Division



Precipitation Percentiles by Watershed



Weather Outlook

Arizona Drought Monitor Report - Produced by the Arizona State Drought Monitoring Technical Committee

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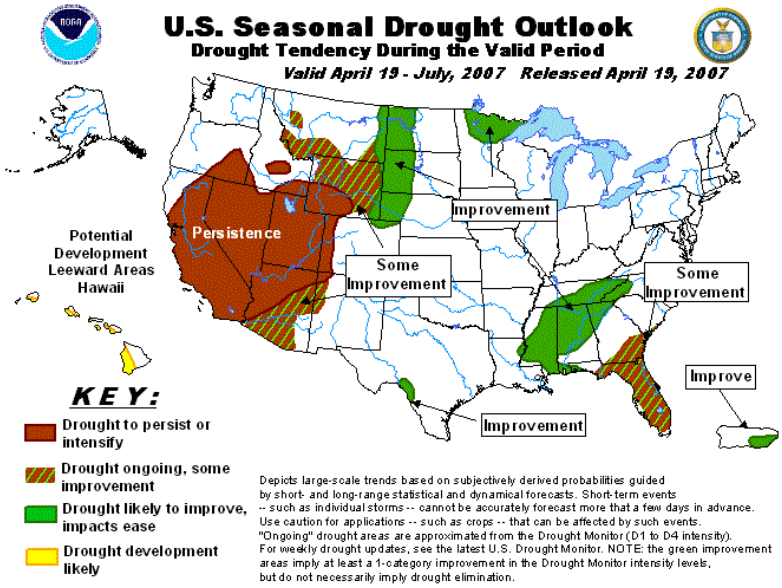
ARIZONA DEPARTMENT OF WATER RESOURCES

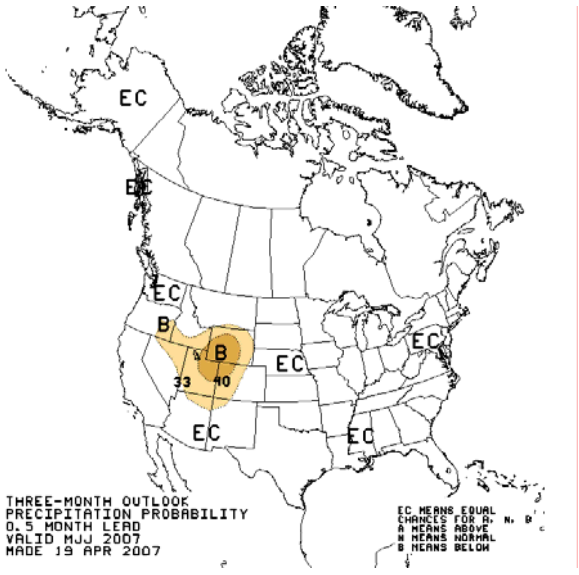
Drought Outlook

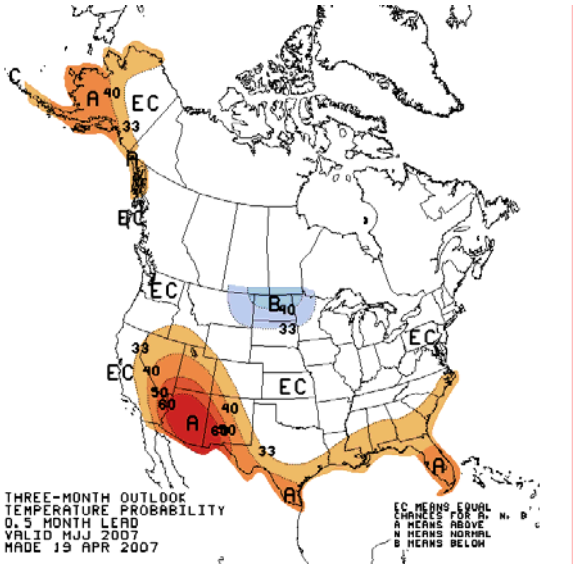
The NOAA Climate Prediction Center's Seasonal Drought Outlook indicates the northwest half of the state will see drought conditions persist or intensity through July 2007, while the southeast half of the state may see some improvement in drought conditions.



Also see the most current Southwest Climate Outlook - www.ispe.arizona.edu/climas/forecasts/swoutlook.html
For additional weather information from the Office of the State Climatologist for Arizona - http://geography.asu.edu/azclimate

May to July Weather Outlooks





Precipitation

Fair amount of confidence precipitation will be near to below average statewide

Temperature

High level of confidence temperatures will be above average across the entire state